IN THE CLAIMS

Please amend the claims as follows:

Claims 1-15 (Canceled).

Claim 16 (Currently Amended) Longitudinally pumped laser comprising:

~~at least one~~ an active lasing medium arranged in an optical cavity;

~~at least one~~ a pumping means emitting ~~at least one~~ a pumping beam toward the ~~at least one~~ active lasing medium;

means for coupling the ~~at least one~~ pumping beam with the ~~at least one~~ active lasing medium;

~~wherein at least one of the at least one active lasing medium comprises~~ one or more non-homogeneously doped zones formed in the active lasing medium, and

wherein at least one of a dimension of said doped zones and a distribution of dopants is chosen based on a desired transverse mode of the optical cavity.

B1

Claim 17 (Currently Amended): Laser according to claim 16, wherein the one or more doped zones is a doped zone [[is]] positioned substantially centrally in the ~~at least one~~ active lasing medium, dimensions of the doped zone are adapted to a fundamental mode of the optical cavity or to the transverse mode, and at least one of a non-doped peripheral zone has dimensions adapted to the coupling means.

Claim 18 (Currently Amended): Laser according to Claim 16, wherein a section of an input face of the one or more doped zones that receives the ~~at least one~~ pumping beam is smaller than or equal to a section of a fundamental mode of the optical cavity.

Claim 19 (Currently Amended): Laser according to Claim 16, wherein a section of an input face of the one or more doped zones that receives the ~~at least one~~ pumping beam is at least greater than a section of a fundamental mode of the optical cavity, the optical cavity comprising a selection device.

Claim 20 (Currently Amended): Laser according to Claim 16, wherein the ~~at least one~~ active lasing medium comprises a non-doped central zone surrounded by a doped peripheral zone.

Claim 21 (Currently Amended): Laser according to Claim 16, wherein the one or more doped zones has a parallelepiped or circular or elliptical shape.

B7

Claim 22 (Currently Amended): Laser according to Claim 16, wherein ~~one or more of~~ the ~~at least one~~ pumping means comprises one or more diode arrays and the coupling means includes a light concentrator for receiving all light emitted by the diode arrays.

Claim 23 (Previously Presented): Laser according to Claim 16, wherein the coupling means comprises at least one of the devices chosen from the group consisting of: a refractive focusing system, a diffractive focusing system, a system working by reflection, and a system for reshaping an extent of a beam.

Claim 24 (Currently Amended): Laser according to Claim 16, wherein the distribution of the dopants in the ~~at least one~~ active lasing medium is made according to a gradient.

Claim 25 (Currently Amended): Laser according to Claim 16, wherein ~~the~~ in the doped zones dopants are chosen from among one or more of the ions of the group consisting of: Nd^{3+}, Yb^{3+}, Er^{3+}, Ho^{3+}, Th^{3+}.

Claim 26 (Currently Amended): Laser according to Claim 16, wherein a face of the ~~at least one~~ active lasing medium facing the coupling means is treated to be anti-reflective at a pumping wavelength and reflective at a laser wavelength, and an opposite face of the active medium is treated to be anti-reflective at the laser wavelength.

Claim 27 (Currently Amended): Method for the manufacture of an active medium used in lasers, comprising:

making one or more pieces of a doped matrix and a non-doped matrix and assembling the one or more pieces to obtain an active medium including one or more zones or volumes having at least one of a dimension and a distribution of the dopants chosen to obtain a transverse mode of the laser cavity.

Claim 28 (Currently Amended): Method of manufacture according to Claim 27, wherein the ~~making~~ assembling is a step of joining by gluing, molecular adhesion, or diffusion bonding.

Claim 29 (Currently Amended): Method of manufacture according to Claim 27, wherein the ~~making~~ assembling is a step for preforming a step-index fiber or for preforming a fiber with a graded index of dopants.

Claim 30 (Previously Presented): Use of the laser according to Claim 16 to amplify one or more laser beams.

Claim 31 (New): Longitudinally pumped laser comprising:

an active lasing medium arranged in an optical cavity;

a pumping means emitting a pumping beam toward the active lasing medium;

means for coupling the pumping beam with the active lasing medium; and

one or more non-homogeneously doped zones formed in the active lasing medium.

Claim 32 (New): Laser according to Claim 31, wherein the one or more doped zones is a the doped zone positioned substantially centrally in the active lasing medium

Claim 33 (New): Laser according to Claim 31, wherein a section of an input face of the one or more doped zones that receives the pumping beam is smaller than or equal to a section of a fundamental mode of the optical cavity.

Claim 34 (New): Laser according to Claim 16, wherein a section of an input face of the one or more doped zones that receives the pumping beam is at least greater than a section of a fundamental mode of the optical cavity, the optical cavity comprising a selection device.

Claim 35 (New): Laser according to Claim 31, wherein the active lasing medium comprises a non-doped central zone surrounded by a doped peripheral zone.

Claim 36 (New): Laser according to Claim 31, wherein the one or more doped zones has a parallelepiped or circular or elliptical shape.

Claim 37 (New): Laser according to Claim 31, wherein the pumping means comprises one or more diode arrays and the coupling means includes a light concentrator for receiving all light emitted by the diode arrays.

Claim 38 (New): Laser according to Claim 31, wherein the coupling means comprises at least one of the devices chosen from the group consisting of: a refractive focusing system, a diffractive focusing system, a system working by reflection, and a system for reshaping an extent of a beam.

Claim 39 (New): Laser according to Claim 31, wherein a distribution of dopants in the doped zones of the active lasing medium is made according to a gradient.

Claim 40 (New): Laser according to Claim 31, wherein in the doped zones dopants are chosen from among one or more of the ions of the group consisting of: Nd^{3+}, Yb^{3+}, Er^{3+}, Ho^{3+}, Th^{3+}.

Claim 41 (New): Laser according to Claim 31, wherein a face of the active lasing medium facing the coupling means is treated to be anti-reflective at a pumping wavelength and reflective at a laser wavelength, and an opposite face of the active medium is treated to be anti-reflective at the laser wavelength.

Claim 42 (New): Use of the laser according to Claim 31 to amplify one or more laser beams.